

## DIGITAL AUTOMATIC GAIN CONTROL

### Abstract

Systems, devices, and methods are provided to inhibit apparent amplitude  
5 modulation in non-linear processing that causes distortion in a processed signal.  
One aspect of the invention includes a hearing aid. The hearing aid includes a  
microphone to receive an input signal, a speaker to reproduce the input signal, and  
a processor. The processor processes the input signal using a gain. The processor  
includes an inhibitor, which inhibits distortions, and an adjuster, which adjusts the  
10 gain. The inhibitor acts to smooth an envelope of the input signal to inhibit  
undesired modulation. The adjuster adjusts the gain if the envelope is either above  
or below a threshold.

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